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ABSTRACT

Policymakers adopt basic skills tests as admission requirements for programs of teacher education to increase the accuracy of admissions and, ultimately, to increase the competence of the teaching force. The tests are regarded as an independent measure of student academic competence. A multiple regression study of the incremental predictive validity of the test scores shows that basic skills test scores do not improve the prediction of students' success in teacher education programs when the grade point average of the first 2 years of college is available. The use of college grade point averages alone are recommended to measure academic achievement and to predict future academic achievement. It is also recommended that candidates for admission to teacher education programs submit scores on standardized tests of basic skills at the time of admission, but that a qualifying score not be designated. A final recommendation asserts that prospective teachers achieve a qualifying score on a test of basic skills before licensure. (Author/LL)

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The Use of NTE Communication Skills and General Knowledge Scores for Admission to Teacher Education Programs: Policy Recommendations

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SP033 311

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Abstract

Policymakers adopt basic skills tests as admission requirements for programs of teacher education to increase the accuracy of admissions, and ultimately to increase the competence of the teaching force. The tests are regarded as an independent measure of student academic competence. A multiple regression study of the incremental predictive validity of the test scores shows that basic skills test scores do not improve the prediction of students' success in teacher education programs when the grade point average of the first two years of college is available. We recommend that prospective teachers achieve a qualifying score on a test of basic skills before licensure, but not necessarily before admission to programs of teacher education.

SP033 311

Introduction

There has been a rapid and widespread adoption of tests of basic skills for admission to teacher preparation programs across the nation. Rudner's 1988 report indicated that by 1989, 27 states would require that a candidate for admission to teacher education pass a test of basic skills. Policymakers establish admission test requirements to achieve the long term goal of improving the competence of the teacher workforce. In the short term, tests are used to increase the accuracy of admissions by denying entry to students who are not likely to successfully complete the program. The college grade point average (gpa) is one measure of academic achievement and promise, but policymakers, sensitive to the general public perception of the decline in college standards, seek an independent measure of basic skills competence.

The social consequences of the pre-admission testing of basic skills are well known. When qualifying scores are established at levels high enough to convince the public that prospective teachers are literate and knowledgeable, many candidates are eliminated, aggravating the general teacher shortage. Minority candidates are eliminated in higher proportions than white candidates, leading to an even more severe shortage of minority teachers (Goertz and Pitcher, 1985; Goertz, Ekstrom, and Coley, 1984; Kauchak, 1984). In North Carolina in 1988–1989, 1% of white test takers and 24% of black test takers failed the National Teacher Examinations (NTE) Communication Skills (CS) test, while .5% of white and 14% of black test takers failed the NTE General Knowledge (GK) test (Department of Public Instruction, undated).

In spite of the social consequences, there is widespread support for basic skills testing. College faculty themselves identify grade inflation as a serious problem. There is also a perception that teacher education programs require lower qualifications for admission than do other college majors (Haney, 1990). In response to a member survey by the Association of Teacher Educators, K-12 teachers and administrators, and college professors and administrators agreed that "admission to programs of teacher education should require an evaluation of students [by] basic skills tests." The mean response to this item was fifth highest among 30 critical issues in teacher education. College administrators and professors agreed that *also* requiring the student's grade point average in admission decisions was valuable, while school administrators and teachers disagreed that student grade point average should be used at all in admission decisions (Buttery, Haberman, and Houston, 1990).

Since 1983, the state of North Carolina has required students to achieve qualifying scores on the NTE CS and GK tests prior to admission to teacher preparation programs. North Carolina teacher candidates must also achieve a qualifying score on the NTE Professional Knowledge (PK) test prior to licensure. In this paper we review validity studies of the CS and GK tests as they are used in North Carolina. We interpret these studies using a unified conception of validity which includes the context in which the tests are used. Finally, we offer recommendations for the use of basic skills tests for admission to teacher education that will: (a) promote the state's interest in having a qualified teacher work force, (b) maintain an adequate supply of teachers, and (c) make the test policy consistent with current validity data.

Review of evidence for validity

Jaeger and Busch (1984) carried out a content validity and standard-setting study of the CS and GK tests at the time that the state of North Carolina adopted the tests. The study established that the abilities measured by the tests were relevant to success in teacher education programs and verified that students would have had an opportunity to acquire the skills and knowledge measured by the tests. Jaeger and Busch recommended that further research be conducted based on the experience of actually using the tests.

Wakeford and Williams have conducted criterion validity studies of the CS and GK tests as they are used in North Carolina for admission to teacher education programs. These multiple regression studies examined the incremental predictive validity of CS and GK scores, and compared validity to that of Scholastic Aptitude Test Verbal (SATV) and Mathematics (SATM) scores, and a grade point average for the first half of the college coursework (GPA1). The criteria were the grade point average of the second half of the college coursework (GPA2), and the NTE PK score. Study 1 (Wakeford, 1987/1988) included 444 graduates of teacher education programs at 15 University of North Carolina (UNC) System campuses in 1984–1985, and 1985–1986. Study 2 (Williams and Wakeford, 1989) included 1,143 UNC System graduates from 1986–87 and 1987–88. The subjects entered college as freshmen without transfer credits, earned GPA1 and GPA2, and graduated from the institution of freshman entry. The studies asked two questions: (a) What is the predictive validity of the CS and GK when used to screen applicants to teacher education programs?, and (b) How does the predictive validity of the CS and GK compare to that of SATV and SATM scores and GPA1? We used a series of hierarchical multiple regressions

to predict the GPA2 outcome on the basis of : (a) SATV and SATM, (b) SATV, SATM and GPA1, (c) SATV, SATM, GPA1, and CS and GK. The PK prediction used a similar set of analyses. The order for entering the variables is the order in which they become available for teacher education students. The results are summarized in Tables 1 and 2.

Table 1

Adjusted R^2 and F Values for the Incremental Use of Predictors for GPA2

	Study 1[a]			Study 2[b]		
Predictors	R^2	F	p	R^2	F	p
SATV, SATM	.071	18.02	.0001	.073	45.83	.0001
GPA1 | SATV, SATM	.474	334.78	.0001	.462	824.74	.0001
CS, GK | SATV, SATM, GPA1	.478	2.72	.07	.471	11.23	.0001

[a]N=444 graduates in 1984-85 and 1985-86. [b]N=1143 graduates in 1986-87 and 1987-88.

The results in Table 1 indicate that the five predictor variables together account for nearly 50% of the variance in the GPA2 criterion (Study 1, R^2 = .48; Study 2, R^2 = .47). The SAT scores account for 7% of the variance in GPA2 (Study 1, R^2 = .07; Study 2, R^2 = .07). GPA1 explains approximately an additional 40%. In Study 1, CS and GK are not significant when entered into the regression equation last. In Study 2, CS and GK are significant, although the increase in R^2 is very small–on the order of .01.

Table 2

Adjusted R^2 and F Values for the Incremental Use of Predictors for NTE PK Scores

	Study 1[a]			Study 2[b]		
Predictors	R^2	F	p	R^2	F	p
SATV, SATM	.571	295.78	.0001	.508	589.37	.0001
GPA1 | SATV, SATM	.588	19.16	.0001	.532	59.72	.0001
CS, GK | SATV, SATM, GPA1	.671	56.13	.0003	.622	136.82	.0001

[a]N=444 graduates in 1984-85 and 1985-86. [b]N=1143 graduates in 1986-87 and 1987-88.

In Table 2 the criterion is PK. The data indicate that SATV and SATM scores account for over 50% of the variance in the PK score (Study 1, R^2 = .57; Study 2, R^2 = .51). GPA1 contributes a statistically significant but very small increment in the R^2 in both studies (Study 1, R^2 = .59; Study 2, R^2 = .53). When we add CS and GK scores to the prediction equation, both R^2s increase to over .60 (Study 1, R^2 = .67; Study 2, R^2 = .62).

Table 3

The Usefulness of Selected Variables for Predicting GPA2 and NTE PK

	Incrementally Useful for Predicting	
Predictors[a]	GPA2	NTE PK
SATV, SATM	no	yes
GPA1	yes	no
CS, GK	no	yes

[a]Listed in the order in which they were entered into the regression equations.

Table 3 summarizes and interprets the information presented in Tables 1 and 2. Table 3 shows that for GPA2, grade point average (GPA1) is the best predictor. Table 3 also shows that CS and GK scores are not incrementally useful where GPA1 is available. For NTE PK, the standardized tests SATV and SATM are good predictors, and the addition of CS and GK scores enhances the prediction.To summarize, the data show that the CS and GK scores do not improve the prediction of student performance in the second half of the college career, beyond the prediction available from the grade point average of the first two years of college. In other words, the scores do not predict which students will be successful in a teacher education program–a major goal of the Liaison Committee, which recommended the adoption of the test policy in their 1981 report, The Quality Assurance Program.

We approach the question of the construct validity of the tests as used in North Carolina by taking into account the evidence for content and criterion validity as well as the context in which the tests are used. Cole and Moss define context as "test content administered to examinees to produce a score that is used for a decision that has an intended outcome" (1989, p. 203). Messick (1989) puts it this way:

> What is needed is a way of configuring validity evidence that forestalls undue reliance on selected forms of evidence; that highlights the important though subsidiary role of specific content- and criterion-related validity in support of construct validity in testing applications; and that formally brings consideration of value implications and social consequences into the validity framework. (p. 9)

We must consider the adverse social consequences of the tests if their cause is construct irrelevant variance. It is unknown whether the discrepant failure rates between black and white test takers indicate true construct-related variance, or if they are caused by construct-irrelevant differences among groups. It is clear that evidence for construct validity, when construct validity includes social consequences, does not support using the tests for admission. In the recommendations below we offer some ways in which to amend policy in light of the validity issues.

Recommendations

1. *For admission to programs of teacher education, use college grade point average alone to measure academic achievement and to predict future academic achievement.*

   Multiple regression studies show that when taking college gpa into account, the use of CS and GK scores does not afford any significant increase of predictive validity for grade point average in teacher education. In cases in which gpa is not available, as in the case of non-traditional students, it may still be necessary to require tests of basic skills to gauge achievement. Eliminating the testing requirement for traditional students would remove an impediment to entry. Tests may discourage some otherwise qualified teacher candidates, particularly members of minority groups who are aware of high minority failure rates.

2. *Require that all candidates for admission to teacher education submit scores on standardized tests of basic skills at the time of admission.*

   This recommendation requires students to submit scores, but does not require that they achieve a designated qualifying score. The submission of basic skills scores would ensure identification, at the time of admission, of students who meet other criteria but need improvement in basic skills, so that they could be provided assistance. This recommendation would have two additional effects. First, colleges could use the basic skills scores in the assessment of the general studies program to diagnose weaknesses in the program and to determine how well the curriculum prepares students to enter teacher education (Astin, 1979). Second, the use of basic skills scores would provide help in advising the student of his or her chance of passing the state certification examination. The 1981 Liaison Committee report, which recommended the testing policy, presented both of these as purposes of the testing program.

   High correlations among the CS, GK, and SAT are evidence of redundant testing when all three are required, as they are for prospective teachers in North Carolina. This recommendation allows the substitution of scores achieved on highly correlated alternative tests such as the SAT. Elimination of the cost and stress of redundant tests will facilitate the entry of candidates into teaching.

3. *Require prospective teachers to achieve a qualifying score on a test of basic skills before licensure.*

   Policy should allow students to prepare for the tests and to take them at any time during or after the college period, but before licensure. This recommendation recognizes that a sound testing program should take into account both the goal of the testing, in this case the assurance of a competent teaching force, and the developmental stage of the test takers (Applegate, 1987).

   The state must establish qualifying scores on tests of basic skills that are high enough to support a claim of competence for those who pass them. Anticipated failure rates influence those who set standards when agencies have to deal first hand with the consequences (Ellwein, Glass and Smith, 1988). In North Carolina, the State Board of Education confronted this dilemma during a recent revalidation and standard-setting process. A newspaper reported it this way: "Board members said they favored stiff increases, but feared a more aggressive standard would significantly increase the failure rate of students...particularly minority students who are in short supply" (Graves, 1989). Extending the period in which to pass the tests can relieve the pressure to lower standards in response to high failure rates.

The implementation of this recommendation should accompany the recognition that allowing multiple attempts to pass the test increases the possibility that unqualified candidates will achieve a passing scores and, hence, licensure. Millman (1989) has recommended several safeguards to address this problem.

The recommendations presented would amend the current policy to be more consistent with the available validity evidence. We believe that the implementation of these recommendations would: (a) decrease unintended consequences of the testing, particularly the elimination of potentially qualified minority group members, and (b) increase the likelihood that the policy would achieve its intended outcome of guaranteeing that teachers have an adequate command of basic skills and general knowledge as measured by standardized tests.

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